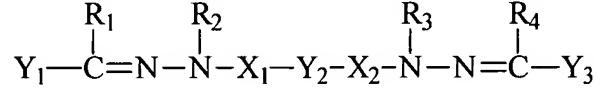


CLAIMS

What is claimed is:

1. An organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive 5 element comprising:

(a) a charge transport material having the formula



where R_1 , R_2 , R_3 , and R_4 are, independently, H, an alkyl group, an alkaryl group, or an aryl group;

10 X_1 and X_2 are, independently, a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 1 and 20, inclusive, and one or more of the methylene groups is optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR_5 group, a CHR_6 group, or a CR_7R_8 group where R_4 , R_5 , R_6 , and R_7 are, independently, H, hydroxyl group, thiol 15 group, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group; and

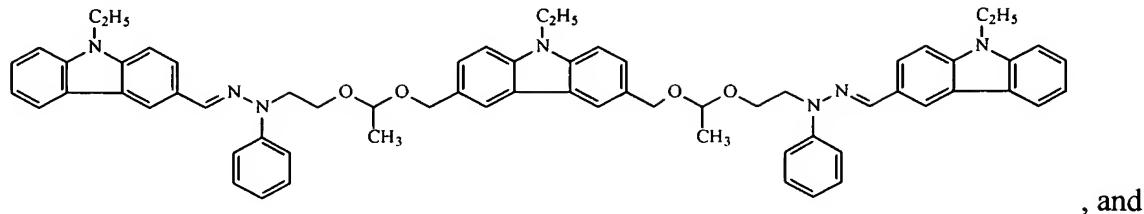
Y_1 , Y_2 , and Y_3 are, independently, an arylamine group; and

(b) a charge generating compound.

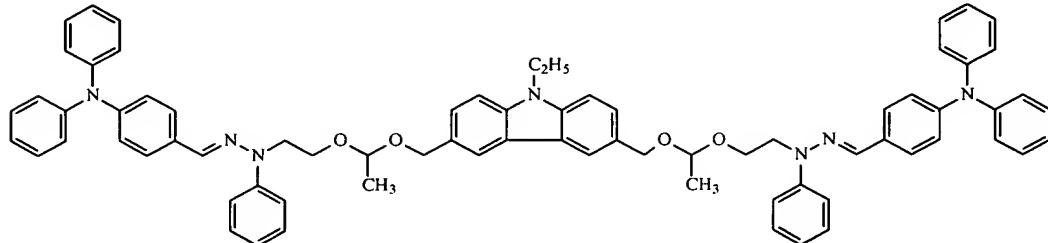
20 2. An organophotoreceptor according to claim 1 wherein Y_2 comprises a carbazole group.

25 3. An organophotoreceptor according to claim 2 wherein Y_1 and Y_3 comprise, independently, a carbazole group, a julolidine group, or an (N,N-disubstituted)arylamine group.

4. An organophotoreceptor according to claim 1 wherein the charge transport material has a formula selected from the group consisting of the following:



, and



5 5. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a second charge transport material.

6. An organophotoreceptor according to claim 5 wherein the second charge transport material comprises an electron transport compound.

10

7. An organophotoreceptor according to claim 1 wherein the photoconductive element further comprises a binder.

15

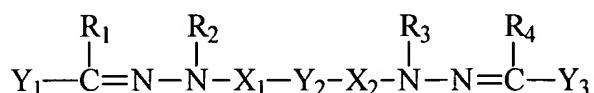
8. An electrophotographic imaging apparatus comprising:

(a) a light imaging component; and

(b) an organophotoreceptor oriented to receive light from the light imaging component, the organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising:

20

(i) a charge transport material having the formula



where R_1 , R_2 , R_3 , and R_4 are, independently, H, an alkyl group, an alkaryl group, or an aryl group;

X₁ and X₂ are, independently, a linking group having the formula -(CH₂)_m-, branched or linear, where m is an integer between 1 and 20, inclusive, and one or more of the methylene groups is optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR₅ group, a CHR₆ group, or a CR₇R₈ group where R₄, R₅, R₆, and R₇ are, independently, H, hydroxyl group, thiol group, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group; and

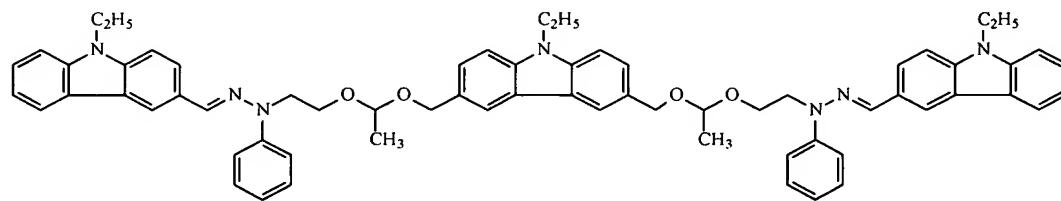
5 Y₁, Y₂, and Y₃ are, independently, an arylamine group; and

(ii) a charge generating compound.

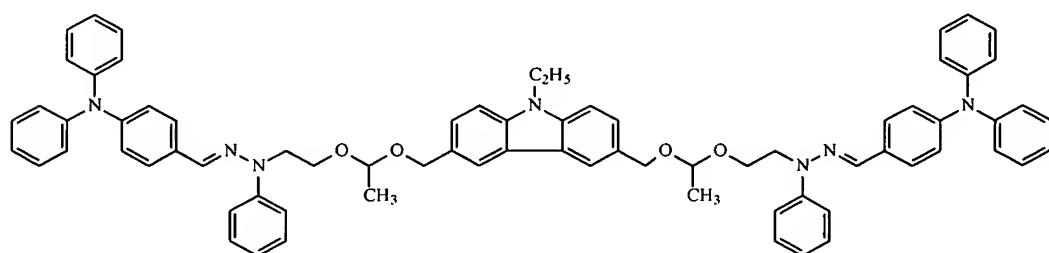
10 9. An electrophotographic imaging apparatus according to claim 8 wherein Y₂ comprises a carbazole group.

15 10. An electrophotographic imaging apparatus according to claim 9 wherein Y₁ and Y₃ comprise, independently, a carbazole group, a julolidine group, or an (N,N-disubstituted)arylamine group.

11. An electrophotographic imaging apparatus according to claim 8, wherein the charge transport material has a formula selected from the group consisting of the following:



, and

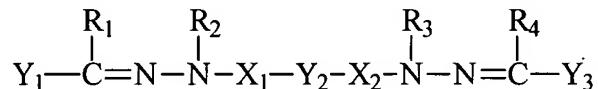


12. An electrophotographic imaging apparatus according to claim 8 wherein the photoconductive element further comprises a second charge transport material.

13. An electrophotographic imaging apparatus according to claim 12 wherein second charge transport material comprises an electron transport compound.

14. An electrophotographic imaging apparatus according to claim 8 further 5 comprising a liquid toner dispenser.

15. An electrophotographic imaging process comprising;
10 (a) applying an electrical charge to a surface of an organophotoreceptor comprising an electrically conductive substrate and a photoconductive element on the electrically conductive substrate, the photoconductive element comprising
(i) a charge transport material having the formula



where R_1 , R_2 , R_3 , and R_4 are, independently, H, an alkyl group, an alkaryl group, or an aryl group;

15 X_1 and X_2 are, independently, a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 1 and 20, inclusive, and one or more of the methylene groups is optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR_5 group, a CHR_6 group, or a CR_7R_8 group where R_4 , R_5 , R_6 , and R_7 are, independently, H, hydroxyl group, thiol group, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group; and
20 Y_1 , Y_2 , and Y_3 are, independently, an arylamine group; and

Y₁, Y₂, and Y₃ are, independently, an arylamine group; and
(ii) a charge generating compound.

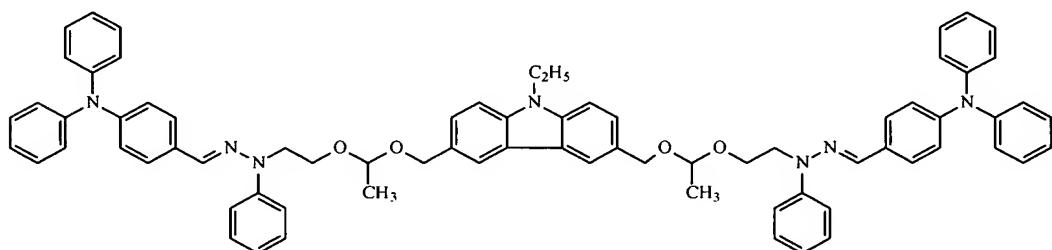
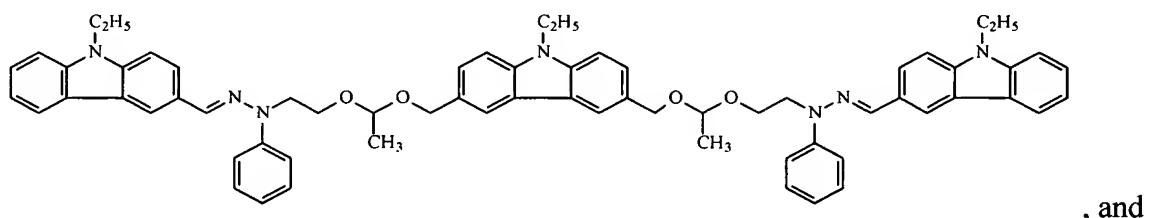
25 (b) imagewise exposing the surface of the organophotoreceptor to radiation to dissipate charge in selected areas and thereby form a pattern of charged and uncharged areas on the surface;
(c) contacting the surface with a toner to create a toned image; and
(d) transferring the toned image to substrate.

16. An electrophotographic imaging process according to claim 15 wherein Y_2 30 comprises a carbazole group.

17. An electrophotographic imaging process according to claim 16 wherein Y₁ and Y₃ comprise, independently, a carbazole group, a julolidine group, or an (N,N-disubstituted)arylamine group.

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18. An electrophotographic imaging process according to claim 15 wherein the charge transport material has a formula selected from the group consisting of the following:



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19. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a second charge transport material.

15

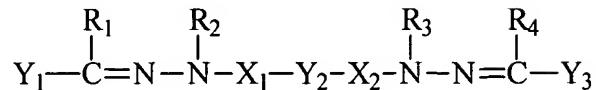
20. An electrophotographic imaging process according to claim 19 wherein the second charge transport material comprises an electron transport compound.

21. An electrophotographic imaging process according to claim 15 wherein the photoconductive element further comprises a binder.

20

22. An electrophotographic imaging process according to claim 15 wherein the toner comprises a liquid toner comprising a dispersion of colorant particles in an organic liquid.

23. A charge transport material having the formula:



where R_1 , R_2 , R_3 , and R_4 are, independently, H, an alkyl group, an alkaryl group, or an aryl group;

5 X_1 and X_2 are, independently, a linking group having the formula $-(CH_2)_m-$, branched or linear, where m is an integer between 1 and 20, inclusive, and one or more of the methylene groups is optionally replaced by O, S, C=O, O=S=O, a heterocyclic group, an aromatic group, urethane, urea, an ester group, a NR_5 group, a CHR_6 group, or a CR_7R_8 group where R_4 , R_5 , R_6 , and R_7 are, independently, H, hydroxyl group, thiol group, an alkyl group, an alkaryl group, a heterocyclic group, or an aryl group; and
10 Y_1 , Y_2 , and Y_3 are, independently, an arylamine group.

24. A charge transport material according to claim 23 wherein Y_2 comprises a carbazole group.

15 25. A charge transport material according to claim 24 wherein Y_1 and Y_3 comprise, independently, an arylamine group selected from the group consisting of a carbazole group, a julolidine group, a julolidine group, or an (N,N-disubstituted)arylamine group.

20 26. A charge transport material according to claim 23 wherein the charge transport material has a formula selected from the group consisting of the following:

